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PREFACE.

TO the ſeveral advantages which Europe has within theſe latter centuries experienced from the cultivation of ſcience and polite literature, this kingdom unfortunately has remained in a great meaſure a ſtranger. As no Iriſhman's partiality will deny this, ſo no man's prejudice ſhould be ſuffered to make it an occaſion of illiberal imputation on the capacity of Iriſhmen, while in the ſtate of the country ſo many local peculiarities may be found fully ſufficient to account for it. The important changes which took place in the government upon the invaſion by Henry the Second were not carried on with ſo little diſturbance, as to permit the nation to apply itſelf immediately to the peaceful employments of literary enquiry: nor could it reaſonably be preſumed, that two claſſes of inhabitants entirely diſſimilar in their inclinations and habits, and afterwards more widely ſeparated by a difference in religion, ſhould be readily

prevailed on to lay aſide their mutual enmity, and unite in the purſuit of ſpeculative ſcience. The connection of this kingdom with England, inſtead of teaching Ireland the many valuable acquiſitions of Engliſh induſtry, tended rather to entice away its men of genius to a country in which, as learning was more faſhionable, its profeſſors might be certain of enjoying more at eaſe the advantages of rational communication, and of receiving more ample encouragement. Its natural ſituation, remote from the line of immediate intercourſe between any two more civilized nations, removed it alſo from all acquaintance with foreign improvement: and its want of political importance baniſhed from it all thoſe whoſe wealth and ambition might have introduced practical ſcience, afforded a liberal patronage to ingenuity, and raiſed their country to dignity, to opulence and to reputation.

Such are the ſeveral cauſes which fatally conſpired to detain this kingdom for a ſeries of years in a ſtate of comparative ignorance and inferiority, to counteract its natural advantages, and to derogate from its national character: and to theſe it is owing, that while its ſons became illuſtrious abroad for enterprize and for ability, their country ſhould yet have remained neglected, and its inhabitants poor, inactive and unenlightened. But the influence of many of theſe cauſes time has in a conſiderable

conſiderable degree weakened, and peculiar circumſtances have now given to Ireland an importance in the political ſcale, which habits of well-directed induſtry alone can eſtabliſh and maintain. Whatever therefore tends, by the cultivation of uſeful arts and ſciences, to improve and facilitate its manufactures; whatever tends, by the elegance of polite literature, to civilize the manners and refine the taſte of its people; whatever tends to awaken a ſpirit of literary ambition, by keeping alive the memory of its antient reputation for learning, cannot but prove of the greateſt national advantage. To a wiſh to promote in theſe important reſpects the advancement of knowledge in this kingdom, the Royal Iriſh Academy for Science, Polite Literature, and Antiquities, owes its eſtabliſhment; and though the members who compoſe it are not entirely without hopes that their efforts may hereafter become perhaps extenſively uſeful and reſpected, yet the original intent of their inſtitution muſt be conſidered as confining their views for the preſent more immediately to Ireland. If their endeavours ſhall but ſerve to excite in their countrymen ſome ſenſe of the dignity of mental exertion, if their exhortation and example ſhall be ſo far ſucceſsful as to become the means of turning vacant thoughts to ſcience and to utility, their labours are abundantly recompenſed.

If it be ſaid that in ſocieties of this ſort too much attention is frequently beſtowed on ſubjects barren and

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ſpeculative, it may be anſwered, that no one ſcience is ſo little connected with the reſt as not to afford many principles whoſe uſe may extend conſiderably beyond the ſcience to which they primarily belong, and that no propoſition is ſo purely theoretical as to be totally incapable of being applied to practical purpoſes. There is no apparent connection between duration and the cycloidal arch, the properties of which duly attended to have furniſhed us with our beſt regulated methods of meaſuring time: and he who has made himſelf maſter of the nature and affections of the logarithmic curve, is not aware that he has advanced conſiderably towards aſcertaining the proportionable denſity of the air at its various diſtances from the ſurface of the earth. The reſearches of the mathematician are the only ſure ground on which we can reaſon from experiments; and how far experimental ſcience may aſſiſt the commercial intereſts of a ſtate, is clearly evinced by the ſucceſs of thoſe ſeveral manufactures in the neighbouring countries of England and France, where the hand of the artificer has taken its direction from the philoſopher. Every manufacture is in reality but a chemical proceſs, and the machinery requiſite for carrying it on but the right application of certain propoſitions in rational mechanics. If chemiſtry and natural hiſtory then have never yet employed themſelves in enquiring into the ſtate of this country, if its minerals have never yet been explored,

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nor the extent of its botanical productions aſcertained, we need not wonder that Ireland, abounding in the firſt materials of many manufactures, ſhould yet have conſidered them no otherwiſe valuable than as articles of export.

To attain purpoſes of ſo great national utility as this Academy propoſes to itſelf, the patriotiſm of the inhabitants of this kingdom has made many efforts, which though not entirely effectual have yet given a well-founded hope, that when circumſtances more favourable ſhould ariſe ſuch endeavours might be attended with ſucceſs. The foundation of our Univerſity has diffuſed the advantages of a liberal education to a number which, when the poverty and ſtate of population of this country are taken into account, appears far from inconſiderable; and ſeveral private literary ſocieties have been at different times paſt formed, tending to keep alive the claims of Ireland on their poſterity, and perhaps to facilitate the ſucceſs of future labours. In the year 1683 William Molyneaux was inſtrumental in forming a Society in Dublin ſimilar to the Royal Society in London, of which he was an illuſtrious member: much might be expected from an inſtitution of which Sir William Petty was preſident, and Molyneaux ſecretary, had not the diſtracted ſtate of the kingdom diſperſed them ſo ſoon as 1688. Their plan ſeems to have been

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reſumed without ſucceſs about the beginning of the preſent century, when the Earl of Pembroke, then Lord Lieutenant, preſided over a Philoſophical Society eſtabliſhed in Dublin College. In the year 1740 the Phyſico-hiſtorical Society, two volumes of whoſe minutes are ſtill extant, was inſtituted: under their patronage Smith publiſhed his Hiſtory of Waterford. And in the year 1772 the antient ſtate of Ireland attracted the attention of the Dublin Society, who appointed a committee for the expreſs purpoſe of enquiring into its antiquities. The favourable reception their propoſals of correſpondence met with abroad evinced a diſpoſition in foreign nations to aſſiſt the cultivation of this branch of literature, of which the Royal Iriſh Academy acknowledge with gratitude they have already received valuable proofs. The meetings of the Antiquarian Committee after about two years ceaſed; but the zeal of a very few of their members ſtill continuing has given to the public ſeveral eſſays, ſince comprized into four volumes entitled Collectanea de Rebus Hibernicis. About the year 1782 the Society from which this Academy afterwards aroſe was eſtabliſhed: it conſiſted of an indefinite number of members, moſt of them belonging to the Univerſity, who at weekly meetings read eſſays in turn. Anxious to make their labours redound to the honour and advantage of their country they

they formed a plan more extenſive, and admitting ſuch additional names only as might add dignity to their new inſtitution, or by their publications had given ſure ground to hope advantage from their labours, became the founders of the Royal Iriſh Academy.

Let it not be imputed to arrogance when we ſay that, however former Societies in this kingdom may have failed, the members of this Academy ſhould not be diſheartened. From its peculiar nature, and ſeveral favourable circumſtances attending the time of its inſtitution, it has many proſpects of continuance. Uniting in one plan the three compartments of Science, Polite Literature, and Antiquities, it unites whatever is pleaſing with whatever is uſeful, the advancement of ſpeculative knowledge with the hiſtory of mankind: it makes proviſion for the capricious variations of literary purſuit, and embracing all the objects of rational enquiry, it ſecures the co-operation of the learned of every deſcription.

It has been inſtituted too at a time when it can enjoy the protection of a monarch, whoſe patronage of the liberal arts has made his reign an illuſtrious æra in the annals of literature; at a time when two of the ſciences have had advantages hitherto unknown in this country

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held out to them, in the eſtabliſhment of a medical ſchool, and the foundation of an obſervatory for aſtronomical purpoſes; and at a time when every qualification natural and acquired concurred in pointing out a preſident, whoſe zeal for the intereſts of Ireland could only be equalled by his zeal for the intereſts of learning.

ANIMATED by ſuch encouragements, the Iriſh nation are called on to exert themſelves. The Academy, in this volume, with moſt reſpectful deference preſents the firſt fruits of its labours to the public: whether the beginning now made ſhall be relinquiſhed with diſgrace, or this Society be taught to aſpire to hopes of vigor and continuance, is a queſtion, which thoſe who have abilities to promote the advancement of literature ſhould be informed is left, with all its important conſequences, for their exertions to determine. To embolden their diffidence, the nature of theſe publications holds out all the advantages of mutual example, while the great national benefits to be derived from this inſtitution muſt ſtamp their indolence a crime of no leſs magnitude than treaſon againſt the welfare of Ireland. They are called on by every tie which can have a laudable influence on the heart of man: by the hopes of ſucceſs, and the infamy of defeat, by the ſolicitations of a natural inſtinct

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which will not ſuffer their faculties to reſt without exertion, and by the authoritative voice of reaſon and experience which pronounce ſuch exertions ſalutary, by emulation, by philanthropy, by honeſt pride, by a glorious ſenſe of the dignity of their country, and the dignity of human nature. To ſuch a call Iriſhmen cannot be inattentive: the God of Truth will look propitious on their labours, and a Ray from Heaven ſhall light them to ſucceſs.